FIG.1

101 CPU

106 GRAPHIC ACCELERATOR

107 COLOR MONITOR

102 ROM

108 USB CONTROLLER

109 PRINTER

103 MAIN MEMORY

110 PARALLEL-PORT CONTROLLER

111 COLORIMETER

105 HDD

104 SCSI I/F

112 KEYBOARD/MOUSE CONTROLLER

113 KEYBOARD

MOUSE

114

115

FIG.2

C(0,255,255)   W(255,255,255)
Grid(0,3,2)
Grid(0,3,1)
G(0,255,0)
Grid(0,3,0)
Grid(0,2,0)
Grid(0,1,0)   M(255,0,255)
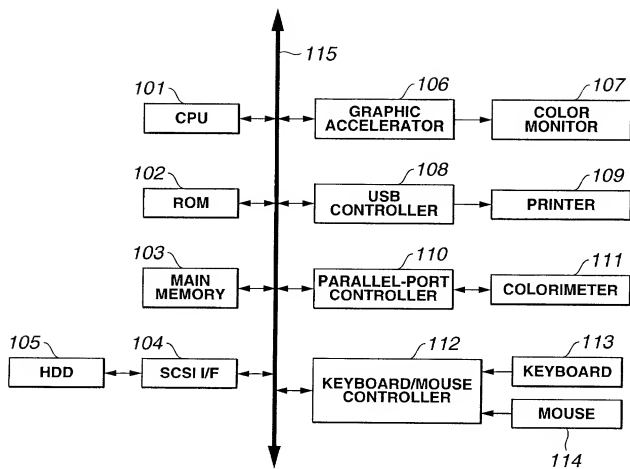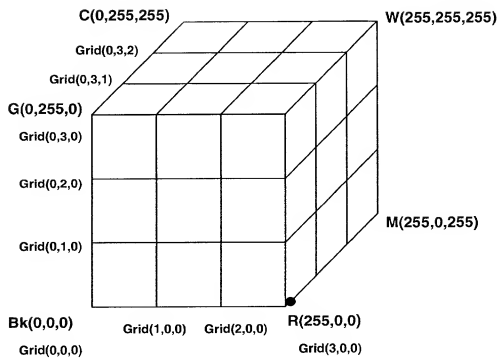Bk(0,0,0)   Grid(1,0,0)   Grid(2,0,0)   R(255,0,0)
Grid(0,0,0)   Grid(3,0,0)

FIG.3

STEPS OF R VALUES : 0,32,64, ... ,224,255

STEPS OF G VALUES : 0,32,64, ... ,224,255

STEPS OF B VALUES : 0,32,64, ... ,224,255

L∗a∗b COORDINATES OF GRID(0,0,0) : (30,0,-2)

L∗a∗b COORDINATES OF GRID(0,0,1) : (31,2,-9)

⋮

L∗a∗b COORDINATES OF GRID(0,0,8) : (34,18,-33)

L∗a∗b COORDINATES OF GRID(0,1,0) : (34,-8,0)

⋮

L∗a∗b COORDINATES OF GRID(8,8,7) : (90,-4,12)

L∗a∗b COORDINATES OF GRID(8,8,8) : (92,0,0)

FIG.4

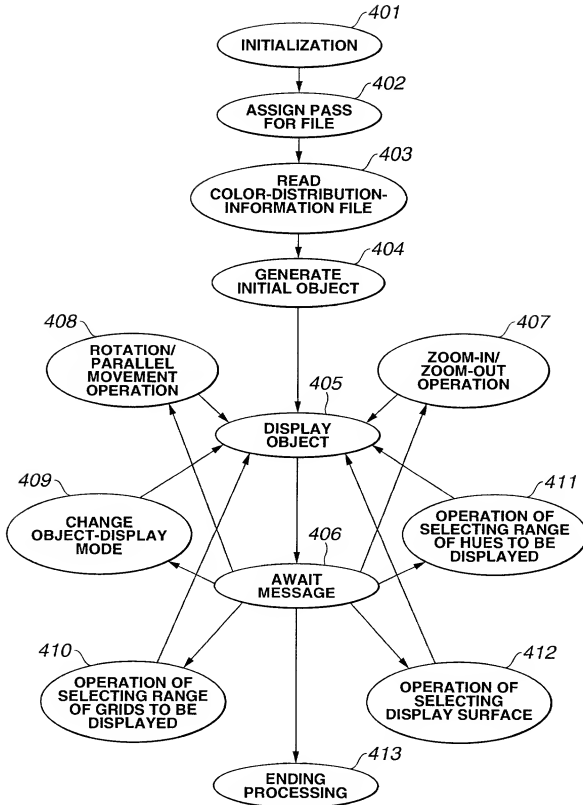INITIALIZATION /401

ASSIGN PASS FOR FILE /402

READ COLOR-DISTRIBUTION-INFORMATION FILE /403

GENERATE INITIAL OBJECT /404

ROTATION/ PARALLEL MOVEMENT OPERATION /408

ZOOM-IN/ ZOOM-OUT OPERATION /407

DISPLAY OBJECT /405

CHANGE OBJECT-DISPLAY MODE /409

OPERATION OF SELECTING RANGE OF HUES TO BE DISPLAYED /411

AWAIT MESSAGE /406

OPERATION OF SELECTING RANGE OF GRIDS TO BE DISPLAYED /410

OPERATION OF SELECTING DISPLAY SURFACE /412

ENDING PROCESSING /413

FIG.5

MESSAGE LIST

{ ZOOM_INOUT, MOVE, RASTERIZE_MODE, CHANGE_GRIDAREA, CHANGE_SCOPE, CHANGE_HUEAREA, CHANGE_DISPLAYSURFACE, PROCESS_END }
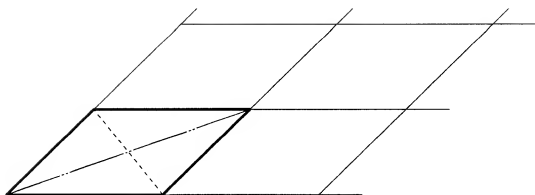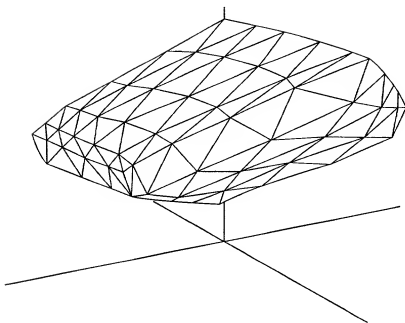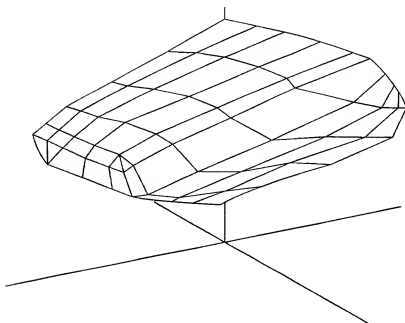
FIG.6
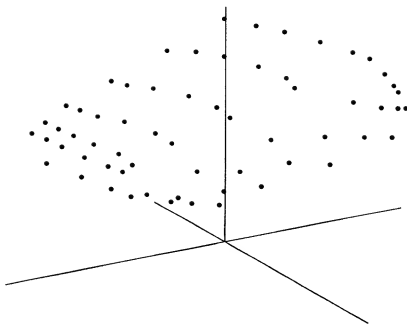
FIG.7

FIG.8

SELECTION OF DISPLAY MODE

■ WIRE-FRAME DISPLAY

☐ POINT DISPLAY

☐ SOLID DISPLAY 1

☐ SOLID DISPLAY 2

☐ SOLID DISPLAY 3

FIG.9

FIG.10

FIG.11
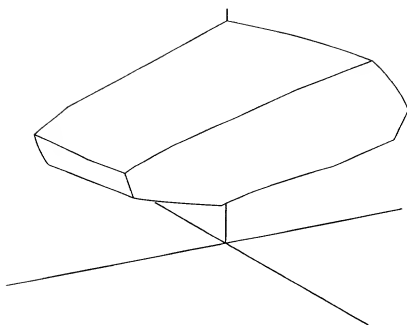
FIG.12

SELECTION OF RANGE OF GRIDS TO BE DISPLAYED

RANGE OF R-AXIS GRID　$\boxed{2}\sim\boxed{5}$

RANGE OF G-AXIS GRID　$\boxed{2}\sim\boxed{4}$

RANGE OF B-AXIS GRID　$\boxed{1}\sim\boxed{4}$

FIG.13

Grid(5,5,5)

Grid(2,4,4)   Grid(5,4,4)

Grid(0,5,0)

Grid(2,4,1)

Grid(2,2,1)   Grid(5,2,1)

Grid(0,0,0)   Grid(5,0,0)

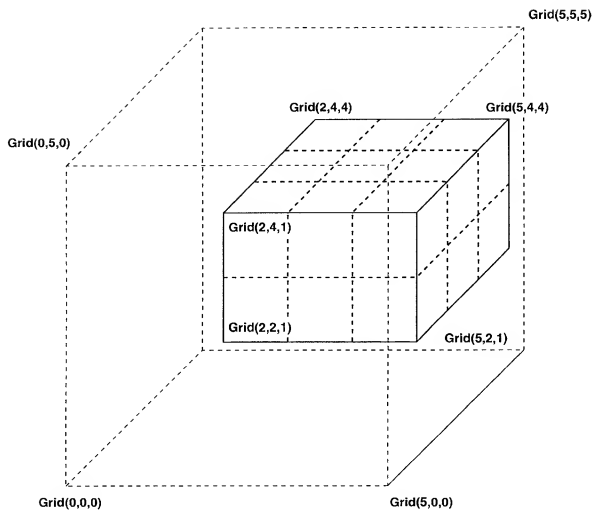# FIG.14
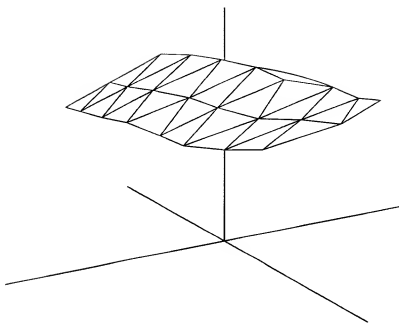
FIG.15

SELECTION OF INTERNAL LAYER
TO BE DISPLAYED

INTERNAL LAYER
TO BE DISPLAYED   1

FIG.16

Grid(2,4,4)
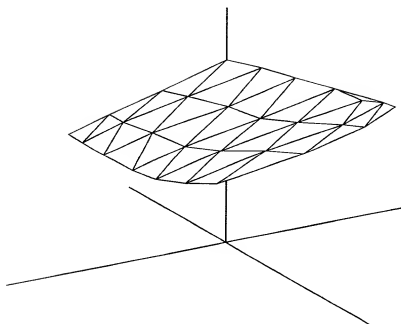Grid(4,4,4)
Grid(1,4,1)
Grid(4,1,4)
Grid(1,1,1)
Grid(4,1,1)
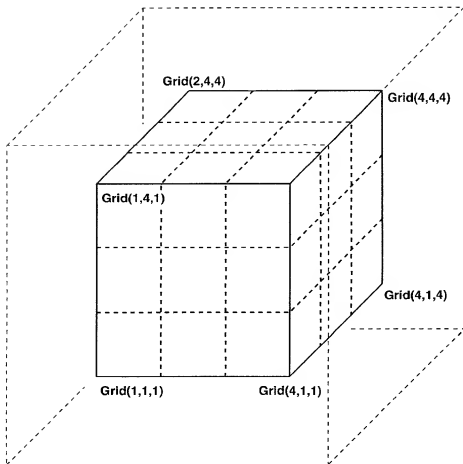
FIG.17

FIG.18

SELECTION OF RANGE OF HUES
TO BE DISPLAYED

☑ RY REGION   ☐ CB REGION

☐ YG REGION   ☐ BM REGION

☐ GC REGION   ☐ MR REGION

FIG.19

GC REGION

CB REGION

BM REGION

MR REGION

RY REGION

YG REGION
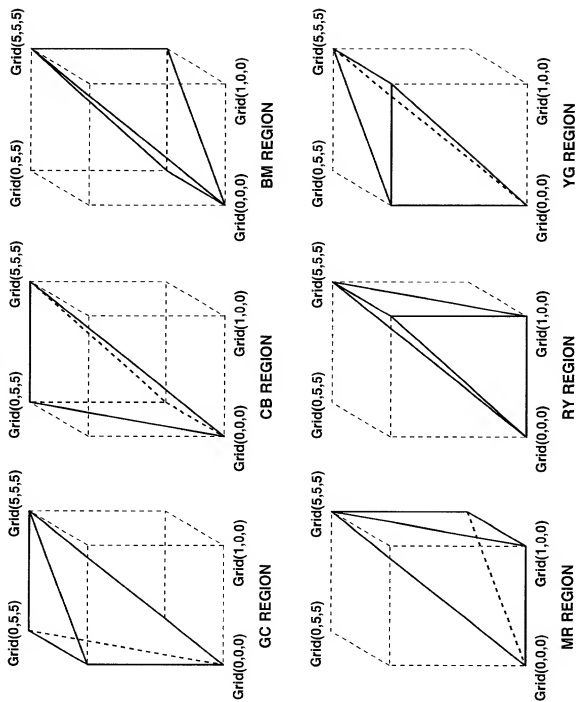
FIG.20
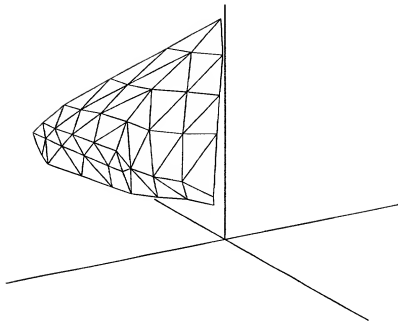
FIG.21

SELECTION OF DISPLAY SURFACE

☑ WMYR SURFACE   ☐ KMYR SURFACE

☑ WYCG SURFACE   ☐ KYCG SURFACE

☐ WCMB SURFACE   ☐ KCMB SURFACE

☐ WRG SURFACE 1   ☐ WRG SURFACE 2

FIG.22

3D-OBJECT DATA
- DISPLAY MODE
- NUMBER OF SURFACES
- COMPOSITIONAL-SURFACE DATA
  - SURFACE DATA 1
    - DISPLAY-SURFACE IDENTIFICATION CODE
    - DISPLAY PERMISSION FLAG
    - DISPLAY-SURFACE-TRIANGULAR-PATCH DATA
  - SURFACE DATA n
    - DISPLAY-SURFACE IDENTIFICATION CODE
    - DISPLAY PERMISSION FLAG
    - DISPLAY-SURFACE-TRIANGULAR-PATCH DATA

FIG.23A

3D-OBJECT DATA
- DISPLAY MODE = SOLID DISPLAY
- NUMBER OF SURFACES = 6
- COMPOSITIONAL-SURFACE DATA
  - WMYR-SURFACE DATA
    - DISPLAY-SURFACE IDENTIFICATION CODE
    - DISPLAY-PERMISSION FLAG
    - DISPLAY-SURFACE-TRIANGULAR-PATCH DATA
  - WYCG-SURFACE DATA
  - WCMB-SURFACE DATA
  - KMYR-SURFACE DATA
  - KYCG-SURFACE DATA
  - KCMB-SURFACE DATA

FIG.23B

3D-OBJECT DATA
- DISPLAY MODE = SOLID DISPLAY
- NUMBER OF SURFACES = 4
- COMPOSITIONAL-SURFACE DATA
  - WMYR-SURFACE DATA
    - DISPLAY-SURFACE IDENTIFICATION CODE
    - DISPLAY-PERMISSION FLAG
    - DISPLAY-SURFACE-TRIANGULAR-PATCH DATA
  - KMYR-SURFACE DATA
  - HUE-SURFACE DATA 1
  - HUE-SURFACE DATA 2

FIG.24